Dossier [Sección arbitrada]

Whose Evidence Counts? Exploring Evidence Pathways during the Covid-19 Crisis in Panama's Housing Ministry

¿Qué evidencia cuenta? Explorando el recorrido de la evidencia durante la crisis del covid-19 en el Ministerio de Vivienda en Panamá

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Abstract

This paper explores how is evidence gathered, transformed, and selected during the current COVID-19 crisis, employing Panama's housing ministry as a case study. We wish to better understand evidence pathways and provide strategies for increasing scientific evidence uptake. Our research strategy was organized into a three-step sequential model: 1. The evidence-gathering phase: we studied Covid-19's effects on households by deploying 135 surveys (n=135). 2. The evidence transformation phase: studying housing sector evidence assembled by different ministry divisions via 12 surveys and interviews with ministry personnel (n=12), and 3. The evidence selection phase: studying evidence employed by decision-makers, through a semi-structured interview with the housing minister (n=1). Results show that evidence pathways depend on social phenomena, including internal and external political power negotiations, social class identities, and representations of the role of government.

Palabras claves: evidence-based policy, evidence, housing policy, social class, Covid-19.

Resumen

Este artículo explora cómo se reúne, transforma y selecciona la evidencia para informar la política pública durante la actual crisis del COVID-19, con el Ministerio de Vivienda de Panamá como estudio de caso. Deseamos comprender mejor los recorridos de la evidencia y proporcionar estrategias que aumenten la adopción de evidencia científica. La estrategia de investigación se organizó en un modelo de tres pasos: 1. La fase de recopilación de evidencia: en ella estudiamos los efectos de Covid-19 en los hogares con 135 encuestas (n=135). 2. La fase de transformación: la evidencia sobre los hogares recopilada por los departamentos del ministerio mediante 12 encuestas y entrevistas con su personal (n=12), y 3. La fase de selección de evidencia: estudio de la evidencia empleada por los tomadores de decisiones, mediante una entrevista semiestructurada con el ministro de Vivienda (n=1). Los resultados muestran que las vías de obtención de la evidencia dependen de fenómenos sociales, como las negociaciones internas y externas de poder político, los roles de clase social y las representaciones sobre el rol del gobierno.

Keywords: Política basada en la evidencia, evidencia, política de vivienda, clase social, covid-19.

Introducción

Covid-19 has highlighted the importance of science in public policy. Randomized control trials and policy design experiments (Stoker and John, 2009) - where policies went through a cycle of test and re-design- had to be deployed around the world at lightning speed targeting many areas of life, including the regulation of work, health and education policies. Information from the field was readily obtained and transformed into evidence through expert advice, but also using existing E-to-P pathways within public sector institutions. These streams of information are called evidence to policy pathways (Allen *et al.*, 2020). Public institutions manage their E-to-P pathways by selecting what evidence counts at various moments. Our research is motivated by the following question: how has the pandemic affected evidence-to-policy (E-to-P) pathways in middle-income countries? Has evidence been gathered, transformed, and selected, differently? Few researchers have investigated the social exchanges, negotiations, and representations that lead to evidence use and suppression.

Our primary goal is to explore, describe and interpret Panama's evidence-to-policy pathways (E-to-P) during the pandemic. Panama ranks 17th on the global inequality list (World Bank, 2022), with 49.8 points on the GINI index. Panama is second after Belize (11) within Central America. It is a propitious country to study evidence pathways; most economically unequal societies have a steep social class pyramid, which is especially helpful to observe differences in discourse and problem-setting orientations. We intend to contribute to the multidisciplinary discussion on Evidence-based policy and inform the future inquiry into evidence use practices in middle-income countries (World Bank, 2021).

The sample design we devised is statistically unrepresentative of the whole variety of government institutions. Yet, our results are valuable for researchers and policy professionals due to an innovative theoretical framework and methodology that builds a model for evidence pathways in times of crisis. Even though the literature remains fragmented due to the complexities of policymaking, as Christensen (2020) points out, this fragmentation "has also been a barrier to theoretical development and

empirical analysis" (p. 2). To fill that gap, our study focused on empirically analysing evidence as it moved up the bureaucratic ladder.

Current research on evidence-based policy making (EBPM) is past its infancy. The naïve interpretations of scientific evidence as the key factor in policymaking have been correctly disputed (Cairney, 2016; French, 2018, Sanderson, 2009). Policymaking is currently defined as a political process that involves values and representations about the future, and "… individuals pursuing their interest, but it also involves networks working together, as well as the discursive constructions of those interests in the first place (Parkhurst, 2017, p. 27)". French (2018, p. 151) defines policy as "the position or approach adopted by public authorities – governments, agencies, school boards, the military, the police – toward problems or opportunities which are perceived to affect public welfare." What these definitions show is the problematic and marginal role that scientific evidence plays within public policy. Covid-19 remains an opportunity to discuss new ways in which scientific advice and scientific evidence can become an important part of the process.

Main Hypothesis: We hypothesize that social class, political power, and representations of the role of government influence evidence pathways. Evidence pathways consist of a three-step process: evidence gathering, transformation, and selection processes. We anticipated that unequal social structures would distort evidence pathways.

Our hypothetical model suggests that the Covid-19 crisis makes scientific evidence gathered from the field less salient to decision-makers, making the evidence-gathering phase unwelcome. As the crisis depletes internal power resources by emptying the government's coffers and redistributing budgets prioritizing health-related expenditures, the external power pressures are constantly growing; the party bases are unsatisfied, and the economic and social circumstances are spiraling down. Heightened pressure on policymakers could mean that evidence-gathering processes become less important to them. On the contrary, controlling evidence sources becomes crucial, therefore limiting external evidence uptake and amplifying the resonance of biographical/ representational sources of evidence. This could potentially explain why some governments framed Covid-19 as a hoax (McConnell and Stark, 2021).

Research strategy

Even though the paper's goal is not to describe the socio-economic situation of middle-income countries, a brief description of key aspects is needed. Regional pandemic evidence (Sánchez-Páramo *et al.*, 2021) points towards the risk of losing the economic gains that lifted many out of poverty since the country entered democratic rule in 1990. The unemployment rate grew steadily from 2013 (4.1 %) to 2019 (7.1 %) and went up with the arrival of Covid-19 (18.5 %) (INEC, 2021). These statis-tics are better understood if we consider Panama's current rate of informal employment in 2019 was 44.9 % and climbed to 52.8 % in 2020 (INEC, 2020). The informal employment sector has its environmental expression in urban inequality and informal housing (García de Paredes, 2021).

Panama's public sector has become a major employment provider and growing tensions within political parties are often due to unmet promises of employment as a tacit reward for unpaid political campaigning (Castillo Miranda, 2019). The government's role as a subsidy provider is now evolving into an employer of last resort, putting pressure on policymakers to meet their party member's expectations through traditional clientelism (García de Paredes, 2019). At the crossroads of socioeconomic indicators, the construction industry has been a key economic player after a sustained building boom that lasted a decade. The booming years came to an end before the pandemic arrived. The private and public sectors played a role in the industry's boom and burst. The housing ministry is now under intense pressure on multiple sides.

The first part of our research strategy was to identify the three parts of the E-to-P pathway shown in Figure 1, our three-step sequential model:

1. The evidence-gathering phase: here we studied direct evidence from Covid-19's effects on households by deploying 135 surveys (n=135), which allowed us to see the deteriorating circumstances of households.

2. The evidence transformation phase: we studied housing, labor, and health evidence assembled by different ministry divisions via 12 surveys and interviews with high-ranking housing ministry personnel and key government consultants and officials in the labor and health sectors (n=12).

3. The evidence selection phase: studying evidence employed by decision-makers, through one semi-structured interview with the housing minister (n=1).

Dividing the process into three sections allowed us to see how evidence was re-interpreted by social groups as it climbed up the social ladder. In Panama, government posts are correlated with social position, the higher the position in government, the higher the possibility that the incumbent comes from the country's political elites and vice versa. Consequently, the three phases described above, grossly correspond to three levels of political influence in the Panamanian state. *We assume as a complementary hypothesis that the content and meaning of evidence change as it moves through the social class ladder enabling a social-regulatory process.* This hypothesis coincides with evidence from developing countries that describe the roles of elites as clearly distinct from other social classes; "the elites, dominate critical facets of life and determine who gets what, when, and what quantities (sic)" (Matamanda *et al.*, 2021, P.2).

Figure 1
*E-to-P Pathways and the key factors affecting evidence*
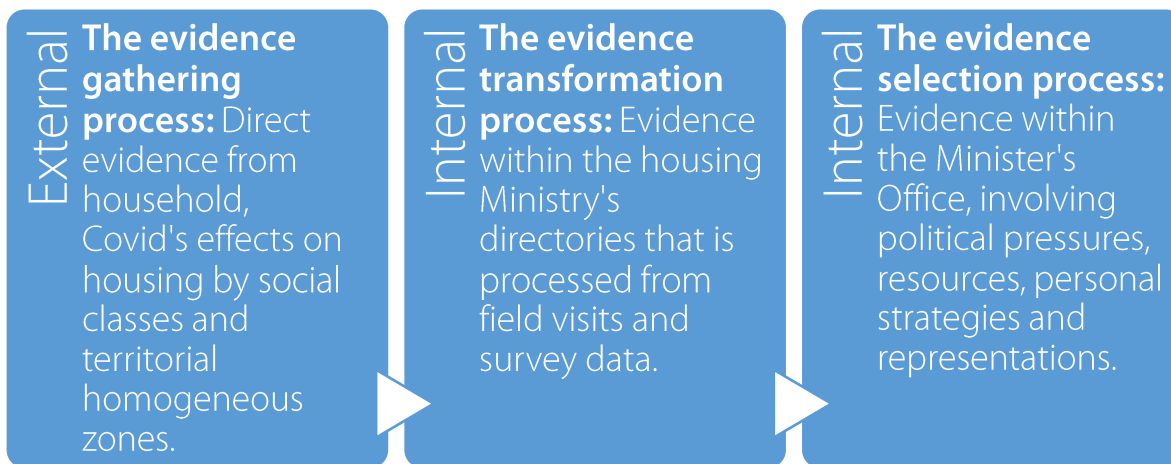
Note: Property of the author.

To further develop our hypothesis, we used our three-step model to build a behavioral framework that characterizes multiple evidence processes and evidence sources, shown in Figure 2. The model portrays

evidence's pathways starting from the base (bottom of Figure 2, the evidence-gathering phase) with the social construction of evidence by two different groups of sources: independent (1) and internal sources (2). Independent sources are what we as researchers generate within academia, it also includes research by international organizations. Internal sources are those that are directly under institutional control. It includes government-generated evidence and personal evidence that depends on the political biography of the decisionmaker. All three evidence types are inscribed within the evidence transformation phase. These three kinds of evidence merge and are negotiated, passing through a "power screen". Going through this power screen involves two usually antagonistic forces; internal power pressures (e.g., the global pandemic, chronic unemployment, or a recent corruption scandal) and internal power resources in the form of a given government post and an individual's amount of leverage. The model ends at the top of the pyramid with a behavioral conceptualization of the decision process for high-level government officials, which consolidates the evidence selection phase.

We defined evidence as useful information for decision-makers. This definition accommodates our hypothesis and does not match academic definitions of evidence as primarily scientific, such as "evidence as the product of research: organized knowledge produced in accord with the standards of the relevant academic disciplines" (French, 2019). So doing enables us to compare different types of evidence and beliefs, including scientific evidence, and see if they combine, contradict, or coexist in the descriptions policymakers provide of their decision processes. Crucially, decision-makers appeared to purposely blur the boundaries between scientific evidence and beliefs, accentuating the need for a more inclusive definition of evidence. Our findings coincide with literature on the importance of problem-framing as a political strategy amid the Covid-19 crisis (McConnell and Stark, 2021), and the role that evidence plays within this initial stage of evidence use.

Figure 2
A hypothetical model of E-to-P pathways
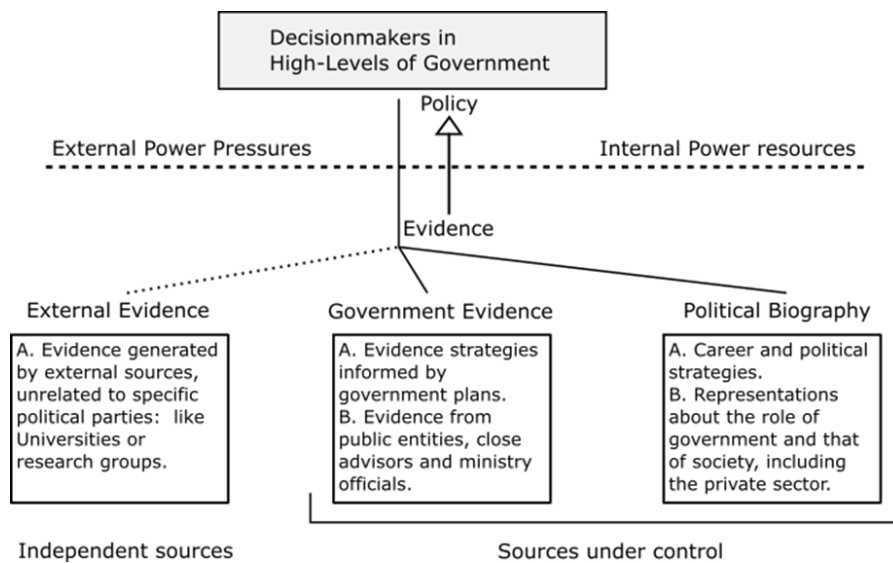
Note: Property of the author.

Method

To answer our research question, we carried out three kinds of surveys totaling 148 (n=148), our evidence-gathering phase. The first survey group (march, 2021) was focused on gathering scientific evidence on the effects of Covid-19 on metropolitan area households within three homogeneous zones according to validated territorial classifications (IDOM *et al.*, 2021) that coincide with class structures within the city (n=135, phase 1). We concentrated our analysis on the social class discourse around the effects of Covid-19, to gauge their preoccupations and primary interests with regard to housing policy. These pressures are possible avenues for future housing policy innovation, like facilitating house adaptations for the "new normal", providing places to stay for those losing their incomes, providing materials or legal status for new informal settlers, adapting the ministry's subsidies or in-kind subsidies, etc. Having a broader picture of how Covid-19 has affected households and what are the main policy variables that could improve their situation, allowed us to understand the discursive interpretation made by government bureaucrats during the evidence transformation phase.

The second group of surveys (march, 2021) targeted the situation within the ministry's departments and key government consultants, aimed at understanding what evidence is being transformed into policy suggestions. We carried out 12 (n=12, phase 2) surveys accompanied by 12 semi-structured interviews with housing ministry personnel, government officials, and high-profile figures from Panama's main consultant team who managed evidence related to Covid-19 during the first and toughest months of the pandemic. The interview process was aided by a survey questionnaire on evidence use which they were invited to fill out immediately after the in-person interview came to an end. Our third group (April 6, 2021) consisted of the housing minister himself, accountting for the evidence selection phase, via a long-format telephone interview (n=1, phase 3). The minister is a key player in Panama's public sector with strong ties to the ruling party's hierarchies (Democratic Revolutionary Party, "Partido Revolucionario Democrático" in Spanish). He has held key public office and served as a member of Panama's national assembly on multiple occasions and is a close ally and friend of the president, Laurentino Cortizo.

As stated in our research strategy, the three phases of E-to-P pathways were considered to analyze evidence gathering, transformation, and selection. The analysis was divided into two sections. The first section analyzed the direct evidence from households in our phase 1 surveys through content analysis and descriptive statistics using PSPP (open software). The second section studied phase 2 and 3 surveys using content analysis. A variety of official documents and grey literature sources were used for comparison and contextualizing purposes.

Results for our phase 1 surveys concentrating on direct evidence from households

The sample (n=135) was divided into three groups according to their social class, distance to the city center, and employment characteristics: Group 1 (n=53) is composed primarily of health-industry workers who had not lost their income or their status as employed-on-premises, living in centrally located apartment buildings and houses (middle to high income). The rationale behind our choice of health-industry workers is

simple. They were one of the few groups who worked on premises for most of the confinement period in Panama, which allows us to cover a wider array of confinement experiences. Group 2 (n=27) is composed of technicians, professionals and recently unemployed or suspended workers (because of the pandemic) from all economic sectors living in Suburban and detached housing (middle income). Group 3 (n=55) is composed of informal economy workers living in rural-informal detached houses (low income). The Table 1 summarizes the three groups' characteristics:

Table 1

Level one survey sample characteristics

Level 1 survey Groups 1,2,3 (n=135)	Employment sector and training	Social Class	Distance to city center	Contract Type	Place of Work
Group 1 (n=53)	Health-industry workers	Middle to high class households.	D < 10 km	Long term contracts	On premises
Group 2 (n=27)	Mixed sector professional and technical workers	Middle-low to middle class households.	D < 15 km	Mixed: long-term and temporal contracts	Mixed but predominantly teleworkers
Group 3 (n=55)	Construction and manual labor in the informal economy	Low-class households	D > 15 km	Temporal contracts and informal (no contracts)	Mixed but constantly changing

Note: Data property of the author.

In the case of Group 1, we interviewed a group of 55 middle-to-high-income workers from the health industry through digital means. Group 2 was interviewed on sight in Juan Diaz, a middle-income sector. For Group 3, we selected a low-income neighborhood called Chepo, located in the eastern limit of the city. Surveys were conducted 3.5 months after Panama's economy reopened. At this point, most sanitary measures had been lifted and people could resume their activities. Out of 135 respondents, 96 were women and 39 were men. To understand what changed in

their living conditions because of the crisis, we created a 30 question questionnaire organized along 4 axes, containing open ques-tions for qualitative analyses and Likert scales. The axes were constructed based on the dimensions of the concept of home as the center of everyday life (Després and Lord, 2005; Lord, Després and Ramadier, 2011) and the effect of Covid-19 on those dimensions (Andrew *et al.*, 2020; Bartoszek *et al.*, 2020; Barone Gibbs *et al.*, 2021):

1. The effect of the pandemic on the level of household privacy and crowding.

2. The effect on environmental stress (potential contagion, among others) inside and outside the dwelling.

3. The relationship with neighbors and their social support networks.

4. Physical adaptations to the household that had been made or were desired because of the pandemic.

Results show important differences in the total effect of the pandemic on the sum of these axes. Table 2 below shows how groups 2 and 3 are the most affected. Our data supports the counter-intuitive fact that the health sector's hard-working conditions have not decreased their residential satisfaction. Additionally, the relationship between our groups and the level of negative effects caused by the crisis is strong, with a Chi2 of 0.000, and a Kramer's V is 0.42. However, group 2 and group 3 possess impor-tant differences between them, despite reporting similar levels of total negative effects. Among those key differences is the measure of contact with their neighbors during the crisis. 74 % of group 3 increased contact with their neighbors by creating support networks, while only 7% of group 2 reported increasing the level of contact. In the case of group 1, this figure is 28%. Even though they have similar levels of negative effects, Group 3 managed to increase their network of social support.

Table 2

Groups by employment sector and total negative effects due to the Covid-19 crisis

			Low Effect	Medium Effect	High Effect	Total
Level 1 survey Groups 1,2,3 (n=135)	Group 1, Health-industry workers	Recount	25	22	6	53
		Row %	47.2 %	41.5 %	11.3 %	100.0 %
		Column %	89.3 %	41.5 %	11.1 %	39.3 %
	Group 2, Mixed sector professional and technical workers	Recount	2	9	16	27
		Row %	7.4 %	33.3 %	59.3 %	100.0 %
		Column %	7.1 %	17.0 %	29.6 %	20.0 %
	Group 3, Construction and manual labor in the informal economy	Recount	1	22	32	55
		Row %	1.8 %	40.0 %	58.2 %	100.0 %
		Column %	3.6 %	41.5 %	59.3 %	40.7 %
Total		Recount	28	53	54	135
		Row %	20.7 %	39.3 %	40.0 %	100.0 %
		Column %	100.0 %	100.0 %	100.0 %	100.0 %

Note: Data property of the author.

Table 3 shows the relationship between income and the level of household adaptations (desired and accomplished). This table reveals the priorities for improving residential satisfaction for our three income levels (incomes correspond to our three groups, the chi2 measure for both variables, groups, and income, is 0.000 and its Kramer's V is 0.75, meaning extremely high correspondence. The lowest income group (3) prefers to make additions and major modifications to their homes, while the middle-income group (2) prefers renovations, with 45% of respondents. This data could, for example, be used to generate pro-growth economic policies through loans at low-interest rates, allowing families to improve their housing conditions.

Table 3

Group income and accomplished or desired physical household adaptations

			Very little, e. g. adding furniture	Not as much; renovate	A lot, rooms, and whole spaces	Total
Monthly Family Income (n=135)	Group 3, $0-1000 USD	Recount	0	19	37	56
		Row %	.0 %	33.9 %	66.1 %	100.0 %
		Column %	.0 %	36.5 %	53.6 %	41.5 %
	Group 2, $1000-5000 USD	Recount	10	27	23	60
		Row %	16.7 %	45.0 %	38.3 %	100.0 %
		Column %	71.4 %	51.9 %	33.3 %	44.4 %
	Group 1, $5000 + USD	Recount	4	6	9	19
		Row %	21.1 %	31.6 %	47.4 %	100.0 %
		Column %	28.6 %	11.5 %	13.0 %	14.1 %
Total		Recount	14	52	69	135
		Row %	10.4 %	38.5 %	51.1%	100.0 %
		Column %	100.0 %	100.0 %	100.0 %	100.0 %

Note: Data property of the author.

Results for our phase 2, surveys and interviews with key technicians, consultants, and ministry directors

We used surveys to obtain a general view of evidence use, aware of sample size limitations. One hundred percent of respondents slightly agree or strongly agree with the following five statements: Data collection was affected by COVID-19 (1) and has been more difficult in some geographic areas because of COVID (2). The quality or reliability of collected information has been affected (3), and the pandemic changed public policy priorities (4). As a result, combating COVID requires adapting the work of each ministry or public entity (5). All respondents stated that the main evidence justifying the policies they implemented was rooted in the health crisis, and that evidence came primarily from two sources,

external sources (50 %), and government sources (50 %). And in defining the main reason for success of a given policy, 100% of respondents slightly or strongly agreed with the statement "We had the attention of key people for approval and implementation".

The interviewees were asked about the reason for the failure of a policy they wanted to implement. The four most common answers were "empiricism and corruption (1)", "inferior position (2)", "because of contagion cases at work (3)", "out of reach, lack of empathy (4)". Unanimously, all respondents are in slight or total agreement with these two statements about their implemented policies: first, they required improving the available information or data sources (1). Second, some measures require work among government institutions, not only within our ministry (2). More than half of the respondents believe that "the level of society's understanding of the complexity of governing in times of COVID19" is very low. All agree that a lesson from COVID is that Panama needs to unify criteria between ministries and needs more liaison tables.

One of our key interviewees within the housing ministry was a high-ranking technician from the division of informal settlement. Her opening remark set the tone. It highlighted the urgency unleashed by the pandemic:

> C1. "There are 15 new (informal) settlements, we got here because of the pandemic".

She later explained how this division works to mediate conflicting interests when it comes to legalizing land in the case of informal settlers:

> C2. "Normally those who come to a state instance, need the anonymity of 5 years to achieve the legalization of their land. If they are private lands, the ministry says that they (the owners) take care of their land. The procedures in the Ministry never interfere with private land. The land is only expropriated if the (informal) owner meets the requirements of ACA informal community settlements by seniority. If the owner appears and they have no releases (for any procedure) they must be in good terms with the owner. Have had a peaceful relationship".

This testimony is especially revealing. The technician uses the word "owner" to both interested parties. She does so without distinguishing

the private owner of the land, and the informal settler who seeks to appropriate it.

When describing the minimum requirements to legalize land belonging to the state, she says:

> C3. "The lot must have a risk assessment that guarantees the safety of the inhabitants of the area, a retaining wall is usually recommended, and they are allowed to live there by legalizing them".

When asked about who does the data gathering regarding new informal settlements, the interviewee mentioned that out of a data base of 400 informal settlements, many are not given proper follow-up, and that generates conflicts within the ministry:

> C4. "Forest rangers are the ones who should be walking around to see the growth of settlements. The 1994 Forestry Law is the one that says they watch for changes (to informal settlements) or invasions. Sometimes we work in a settlement and new families ask to be included. How do you say NO to new families? What we do is look for options of larger polygons to be able to help with old settlement relocation. We cannot relocate new ones to avoid sponsoring new settlements. We look for people who have disabilities or require something…They want to avoid having settlements spread out in small fragments. It has also happened to us that when we relocate an old settlement, then new settlers come to the same informal and dangerous place…. We had changed them for a reason".

A stark contrast appeared between interviews dealing with informal settlements and high-ranking officials from the labor ministry. When asked about the type of evidence used by the labor ministry for policy during the pandemic, the answer was unproblematic:

> C5. "At least in the case of MITRADEL (labor ministry), the data on the level of contagion provided by MINSA (health ministry) and the Ministry's Inspection Directorate allowed temporary decisions to be taken to ensure jobs and workers' rights without suffocating companies. This is why 99 % of the measures adopted were temporary".

Additionally, the interviewee raised the subject of evidence-gathering divisions:

> C6. "Evidence to make decisions in the labor field was gathered from the data collected by the General Directorate of Labor, the Directorate of

> Inspection and the regional (provincial) directorates, about business closures and the number of workers affected, as well as the data provided by business and union associations. The first regulations made it mandatory to deliver the information to MITRADEL (labor ministry) and this made the work a little easier".

We then proceeded to interview one the highest-level government consultants, who also had the burdensome task of running the primary health institution in charge of biochemical health research. His testimony shows the exterior pressures affecting evidence pathways:

> C7. "From our point of view, there was a lot of pressure on the issue of testing. The national assembly was at one time permeated by traders, who wanted to buy antibody tests to speculate, saying that these antibody tests were the ones that worked. Some countries did not have antigen tests. Even a deputy who presumably would have friends in those businesses was also lobbying...".

And,

> C8. "On the therapeutic side, hydroxychloroquine is an example; other consultants recommended it… They wanted to use hydroxychloroquine without using scientific evidence".

When asked if he feels other institutions support his policy recommendations, he answered thus:

> C9. "There are connections with other institutions and international political support.... On one side we have collaboration and technical work and on the other side we have the political endorsement strengthening credibility".

Results of our phase 3 interview with the housing minister

Our phase 3 semi-structured interview about the pandemic's effects on decision-making, resulted in a transcribed document of 4392 words, classified along three main themes: Consequences of the global pandemic on the Panamanian state, 249 words. Decision-making in times of crisis and the role of the Panamanian state, 1766 words. About specific housing ministry policy changes and innovation, 2377 words. Previously, we had informed the minister that our interest was to understand the impact of the pandemic on housing policy and to hear his comments on his main

policies. Contrary to what was expected, the content about the consequences of the pandemic accounts for less than 6% of the interview's content, and a considerable amount was devoted to decision-making in times of crisis and the role of the Panamanian state.

Quote Summary 1. Comments on the consequences of the global pandemic

C10. "With regard to the pandemic, many needs surfaced, and the shortcomings of the health system, the education system, the economy as it is designed (...) the service sector has been privileged in the economy, and then we realized that in some way we were being dependent on some activities".

C11. "Yes, the pandemic forced us to use initiative like this, to be creative and we have gone out to solve these problems".

C12. "Regarding the pandemic (…) the social gap continues to grow, (…) people lost their jobs, we do not know if companies are recovering, (…) income has been reduced and this could also encourage the possibility of land invasion as we see happening lately, some of them out of ignorance, others out of necessity and others because they are professional speculators. All this is part of the consequences of Covid, just as when a tsunami passes by and leaves everything in its path, it leaves everything destroyed".

Quote Summary 2. Comments on decision-making in times of crisis and about the role of the Panamanian state proved to be very diversified and strategic

C13. "(…) the shortcomings of the agricultural sector showed us that the country needed something to be more efficient, not only because of the pandemic but also because there are treaties for example (…) free trade agreements that are going to expire (…) that is to say that Panama is going to have to extend itself thoroughly and look for some intelligent way out and be more efficient and less dependent".

C14. "There have been many subsidies in Panama, many subsidies, and these subsidies already reach the figure of 1.6 billion dollars a year in subsidies that can continue to grow if the population grows (…)".

C15. "Yes, we have to make structural changes. (…) some tasks that had to be attended to were being left aside and we had to look the other way and let 5 years go by. Then the Martinelli administration developed a strategy, (which was about) investing in large-scale projects (…). But well, they abandoned agriculture and we became dependent on what could be imported. (…) we stopped looking after the issues in a balanced way".

C16. "(…) the economic recovery goes through the construction of housing and especially social interest housing because the niche is there, and the big developers (x developer, y developer) all of them came and said, "Minister, you have for me too". "I want to enter the housing fund program". Before, they looked the other way, not anymore".

C17. "(…) I spoke with President Cortizo once in his house, when he was taking office, a few days later. And I was looking from a window that he has in his house, I could see the cars from above, there on Balboa Avenue, they were moving here and there like ants, and I said to him, "President, you know the responsibility, (…) all those people that are moving here and there depend on a presidential decision that depends on what you think is the best (decision) (…) as if it were in heaven". Some decisions must be made in the solitude of power. Many advisors, yes, you can have many advisors but there comes a time when you must decide, (…) That's what advisors are for, to advise, but they are not the ones who should be conditioning decisions".

Quote Summary 3. Comments about specific housing ministry policy changes and innovation

C18. "I want to talk to you about (…) the concept of self-management. This concept had been lost here. It was easier to raise our hand and ask for a house and then build a new house for each family and wait for it to be built. From there came the Roofs of Hope program that was being promoted by the Varela administration, which put thousands of houses out to bid and we are still 5 or 7 years on, waiting for them to be finished because they gave many houses to one person when many small bids could have been made, many small Panamanian companies could have participated".

C19. "I have privileged self-management here. We have designed a plan called the Progreso plan, I deliver 60% of the house for the rest to be done by the individual who receives the project. (…) the first bedroom (can)

become a small business and we already have an agreement (…) to deliver seed capital. With this independent access, you can have a small business, a cell phone shop, a grocery store, an ice cream shop, you can sell flowers, whatever you want".

C20. "The legalization of lots was an important (policy) alternative because people (…) who have built on land that is not theirs but have built houses which are already 20 or 25 years old, after so long one cannot avoid seeing the reality (…), so it is better to legalize them before letting them continue living for free. For a landowner, it is preferable after forty years that you have 50% of something than to have 100% of nothing".

C21. "I have resources at this moment to finance about 70 million dollars[1] (...), which means 6,000 new houses (…). These are housing units that are not being built by the ministry, but by private companies".

C22. "Those who qualify for this program are those whose monthly family income does not exceed 2000 dollars; we are talking about two minimum wages. In Costa Rica, Colombia, any country, in Central America, doing the comparison, Panama is the one with more opportunities. In Mexico, you cannot buy a house with a minimum wage or with two minimum wages or with 5 minimum wages, and well the interests eat you up".

Analysis and discussion

Our hypothesis was: social classes, political power struggles, and representations of the role of government influence the path of evidence. To verify this hypothesis, we first gathered information at the base of the social pyramid and then looked at how that evidence is collected, transformed, and chosen until it becomes public policy. The result was a mostly qualitative analysis of discourse. Such discourse is aligned with class roles, but we could see that as we move up the social pyramid, socioeconomic pressures increase. An example of this increase was the comments in phase 2 results, especially C7 and C8. The needs of the population in terms of housing, work, or medical treatment were analyzed. Economic pressures appeared primarily concerning purchases linked to the health emergency, for example, hydroxychloroquine or

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[1]   Within the solidarity housing fund program, where 10 000 USD is given as a subsidy to pay for house mortgages under 70 thousand USD.

antibody tests.

We found evidence that supports the influence of political power struggles on evidence pathways. An example of this was the last comment in phase 2, results from section C9. Decision makers see institutional support at the national and international level as potentially increasing their liberty to strategically choose their problem-setting strategy. In other words, more support means more freedom to set the policy agenda. Likewise, the minister´s strategic analysis of past governments strategies in C15 and his intention to stay within the guide-lines of the government plan and make housing accessible at C19 (Partido Revolucionario Democrático, 2019), shows that the presence of these lines of consensus provides decision makers with solid ground when arguing for evidence choice or transformation.

Qualitative data was processed and classified using content analysis, including counting the frequencies of the most common answers. The Table 4 shows a summary of our sample's key interests and preoccupations. The classification is oriented along different time frames, visible on the right of the table.

Table 4
Principal interests and preoccupations

Survey type	Area classifi- cation	Principal Interests or preoccupations, from highest (left) to lowest (right)			Temporal Frame
Level 1 Surveys (n=135) In three homogeneous zones of the me- tropolitan area	Poor area, lo- wer density	Obtaining di- rect govern- ment help	Gaining visibi- lity	Avoiding re- localization, increased poverty	Immediate, pre- sent term
	Middle class area, middle density	Not losing their jobs	Paying their de- bts	Regaining Routine and security	Present and middle term
	Higher classes, higher density	Keeping healthy	Continuity of leisure activities	The eco- nomy	Present and middle term
Level 2 Surveys (n=12) with mi- nistry personnel and consultants		Following sa- nitary measu- res and conti- nuity of work	Operations, in- formation gat- hering, commu- nication among government entities	Policy inno- vation and using scienti- fic evidence.	Present and middle term
Level 3 Survey (n=1) with the housing minister		Staying the course, Lea- dership, wor- king for each social class on equal terms	Implementing key policies and re-defining the role of govern- ment	Long-term goals and system stabi- lity	Present, middle, and long term

Note: Data property of the author.

As seen in Table 4, social class interests and time frames became the two main organizers of value systems justifying evidence use. Both strategic avenues appeared during our interviews as factors influencing evidence collection, transformation, and selection. Those in need of government help- generally coming from lower classes- claimed their living conditions after Covid-19 (e. g., lack of employment, growing poverty, household overcrowding, security concerns.) were utterly invisible to bureaucrats. Technical personnel within the ministry- usually belonging to the middle class- blamed both the local elite and the poor for putting the system under strain with their irreconcilable priorities. Yet the use of

the word "owner" at C2 for both land invaders and private landowners shows their intermediate position as social conciliators, displaying empathy for both parts.

On the end of the aisle, the housing minister exhibited an interest in finding viable policies for those involved without losing system stability and continuity in the future (C13, C14, C15, and C16). Interestingly, the minister was aware of these contradictions, as the last quote within our Quote Summary 1 shows (C12). But the complexity of that heterogeneous data environment did not allow for any definitive action to be taken. Technicians expressed a lack of good data collection saying the system needed to be fixed (C4). The resentment born from this conflictive situation was in stark contrast to other departments where policies were directed to promote private investment, or to other ministries. This was the case with the high-level official from the labor ministry. His comments exemplify how leaders are aware of the limits of data gathering within their institutions. He stated that compulsory information made data readily available (C6).

Investigating the nuances within the three different phases of the E-to-P pathways allowed us to see that decisions became more centralized. The minister had claimed that "decisions are taken in the solitude of power" (C17) and limited the influence consultants must have in decisions. Centralization of decisions creates an invisible barrier to policy change. New evidence-collection strategies are only possible if high-ranking officials exert control over them, sidelining evidence-gathering suggested by technicians or other middle ranks. A crisis leaves few options outside the urgent or inevitable policy of continuity and damage reduction. The future of policy innovation depends on taking a step back and de-centralizing evidence-collection practices and policy decisions.

Several interrelated findings result from our analysis coming to clarify our research question; how has the global pandemic affected evidence-to-policy (E-to-P) pathways in middle-income countries?

The data-gathering phase was greatly affected by the pandemic: some policymakers used government decrees to make data readily available and compulsory. Old data-gathering channels were restricted. The data transformation phase was less affected, mainly because it carried forward

debates that already existed within ministries. Such was the case of the social acceptability of informal settlements, whose moral contradictions did not go away. New interpretations did appear, mainly connected to sanitary conditions. The evidence selection phase was the most affected: negotiations arose during the selection process due to the crisis's urgency and the country's heterogeneity. These negotiations opened the way for the government's plan, public support, or international endorsements, to become assets for negotiating evidence selection.

Centralization grew during the crisis, together with the evidence's social intentionality because of the urgent situation. Not to say that negotiations did not take place. They became more limiting to opposing parties. We find Covid-19's worsening socioeconomic conditions are not conducive to scientific evidence uptake. At the onset of the crisis, there was a brief honeymoon phase (DeWolfe, 2000) where consultants were heard. After the first few months, the pandemic heightened pressures and social conflict, which in turn led to more pressure on policymakers and more salience on the socially regulatory aspects of policymaking. Social classes in the case of Panama, and probably in other middle-income countries, have divergent views of what constitutes useful evidence, and how should it be gathered, transformed, or used. All the parts of the process are permeated by conflict leading to different representations of future living conditions, and most of those involved are keenly aware of their differences. This factor conditioning policy success has been documented as essential (Safuta, 2021), highlighting the sociopolitical dynamics of evidence use.

We found that during Covid-19, decision-makers in the highest spheres of government- contrary to the assumptions of the lower classes- weighed the consequences of their actions on the social system's stability.

Conclusion

At the initial stage of the crisis, Panama's president said that the "country is at war" against the virus (Redacción Panamá América, 2020). This comment seems prescient in hindsight, setting the tone for a pandemic culture of E-to-P. Figure 3 summarizes the changes endured by evidence pathways resulting from the pandemic. The three-stage model we

proposed saw very different interactions in a pandemic context, as can be seen by its expansion and endured changes exemplified to the right of the figure. At the base of the pyramid, many new data-gathering methods appeared, including the compulsory sending of information from private companies to the labor ministry, as was mentioned in our interviews. This resulted in the expansion of evidence-gathering methods. Our analysis points towards the gained freedom for evidence transformation and selection on the part of leaders that follows from new data-gathering methods. A new culture of E-to-P meant that problem-setting responsibilities were now in the hands of directors and key consultants, expanding the pyramid and aiding centralization.

Figure 3
Pandemic effects on evidence pathways
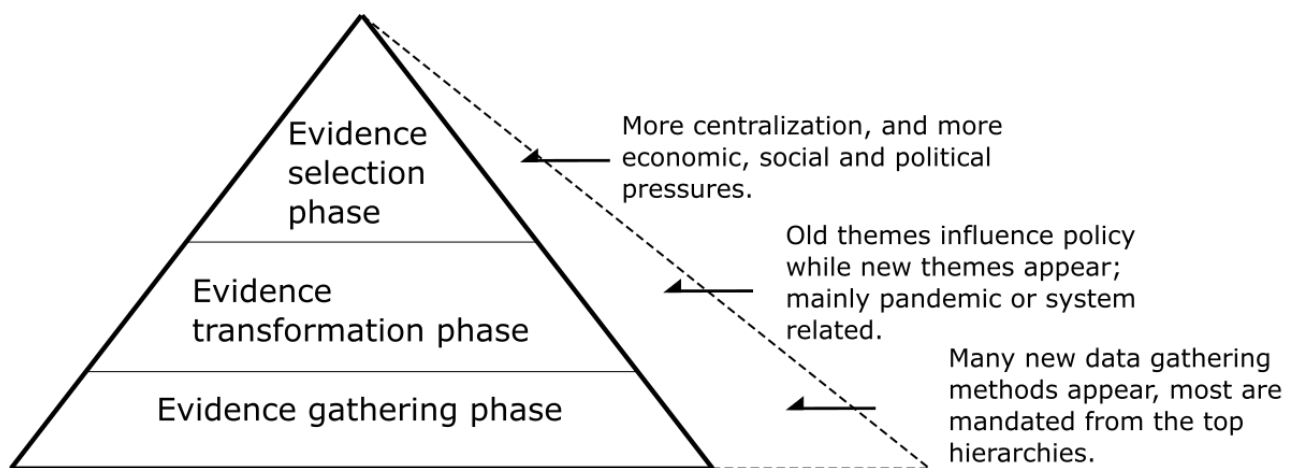
Note: Author's image

The evidence transformation phase saw new themes mixing with the relative importance of old debates and policy cultures within the ministries. New themes related to epidemiological control and avoiding a social crisis overshadowed some conflicts between social classes, without making them disappear. Finally, at the top of the pyramid, evidence selection was further centralized, and pressures mounted. When top consultants were given policy selection roles at the start of the pandemic, they had to confront economic pressures coming from

speculators close to government officials. The housing minister successfully countered economic, social, and political pressures by using key consensus assets like the government's plan.

Policy innovation is not welcome in a crisis context. This strategically aligns with the etymology of the word "govern", a "nautical borrowing from Greek *kybernan*, to steer or pilot a ship, direct as a pilot" (Harper, 2001). Thus, policymaking involves the construction of future scenarios where problem stating might or might not be inspired by scientific evidence but is deeply connected to social power negotiations in times of crisis. The consequence of a more centralized decision-making system means less attention to scientific evidence and more attention to political power issues at the top of the pyramid. These conclusions coincide with the authors pointing out the benefits of higher education research for improving evidence use in legislatures (Rose *et al.*, 2020).

Exercising authority is better defined through what cultural anthropologists call expertise (Ross, 2004). At least four strategies are evident from our data and show a high level of expertise on the part of policymakers, deserving to be researched within the E-to-P literature: guaranteeing long-term system stability in socioeconomic terms (1), socially defining fairness in policy decisions according to class structures (2), drawing boundaries around expert advice (3), and defining the role of government (4). On the weaker end of the policy aisle, bureaucrats are aware of their relatively low leverage and push for the attention of key leaders for approval and implementation. As opposed to E-to-P in developed countries, where politicians "face growing expectations that policies should be based on the best available evidence about the effectiveness of policy interventions" (Christensen, 2020, P.1), in middle-income countries the evidence seems to show that social classes are so distant in their value systems and their representations of the role of government, that no such expectation exists.

When presenting their concept of pragmatic complexity, Ansell & Geyer (2016) explain that a pragmatic conceptualization of a given problem means that "The focus on the concrete situation orients us to the embeddedness of individuals and groups in historically specific webs of

activity and focuses on the problems that arise in the course of this activity". Accepting the fact that the policy environment is performing social regulation is a first step towards empirically researching evidence bias and finding step-by-step solutions to problems. By studying the rise and fall of different types of discursive representations embraced by social groups or classes, researchers can inform decision-makers with scenarios built on common social ground. Though it might seem like a modest task, it coincides with Sanderson (2009, p. 713) in the "need to reconcile the pressure for radical and innovative policy solutions to such problems with the entreaty to be cautious and modest in our expectations of policy action. This implies the adoption of a 'trial-and-error' approach involving experimentation and learning".

We contend that it is the policy expert's job to make visible existing policy options. Although key decision-makers are keen to point out that advisors should not influence political decisions, their insights into contradictory representations or the dangers of excessive centralization can potentially bridge a multiplicity of agendas. Instead of only trying to influence decisions, scientific advisors can explain how certain types of policy could solve specific contradictions and set the way for future policy innovation. As an example, we cite the evidence on informal settlements debates within the housing ministry: deliberately inviting or hiring informal settler's community leaders to cooperate in censing activities could lead to new evidence-gathering or public participation techniques, both impro-ving relations and disincentivizing new informal settlements. It could also help organize resistance against professional speculators that target government benefits. Such a policy directive –focused on evidence gathering– could be endorsed by all three negotiating groups (the poor, the bureaucrats, and the elites) and become a future platform for policy action.

Our hypothetical model clarified the complexities of decision-making, opening the door to research on how specific situations- like more or less power on the part of a politician- affect E-to-P trajectories. Our study had limitations, especially due to the small sample of ministries. We are aware that E-to-P culture might be different from the housing ministry or the labor ministry, which were primary and secondary sources. Many questions arise for future studies: Do younger politicians rely more on

scientific evidence due to their relative lack of experience or expertise? Does public participation reduce a given politician's relative power and force more scientific evidence up-take? Are E-to-P pathways very different across all government ministries or between less unequal countries? Despite the limitations, our results proved that evidence-to-policy pathways change as socioeconomic circumstances change in a crisis context and that our models are useful when it comes to understanding evidence-related behaviors at the national level.

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Anuario de Estudios Centroamericanos

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